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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,162	01/19/2006	Jun Keun Chang	CHANG215	7304
1444 7590 12/31/2007 BROWDY AND NEIMARK, P.L.L.C. 624 NINTH STREET, NW SUITE 300 WASHINGTON, DC 20001-5303			EXAMINER NGUYEN, SANG H	
			ART UNIT 2886	PAPER NUMBER
			MAIL DATE 12/31/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

Application No.

10/565,162

Applicant(s)

CHANG ET AL.

Examiner

Sang Nguyen

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 19 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1 and 17-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 17-23, 28-32 and 37-42 is/are rejected.
- 7) ☒ Claim(s) 24-27, 34-36 and 43-45 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 01/19/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Response to Amendment***

Applicant's Pre-Amendment filed on 01/19/06 has been entered. It is noted that the application contains claims 1 and 17-45 and claims 2-16 have been canceled by the Pre-Amendment on 01/19/06.

### ***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Information Disclosure Statement***

The information disclosure statement (IDS) submitted on 01/19/06 has been entered. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1,18-19, 28, 30, 37, and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziege et al (U.S. Patent No. 5,100,805) in view of Stabile et al (U.S. Patent No. 5,854,684).**

**Regarding claim 1;** Ziege et al discloses a device for counting the number of micro particles, which comprises:

a sample chip (44 of figure 6) wherein a sample containing particles may be located at a reading part (97 of figure 6 and col.7 lines 10-24; col.9 lines 21-24, and col.10 lines 10-15);

a light source (42, 82 of figure 6) that projects light into a sub-area (97 of figure 6) on the sample chip (44 of figure 6);

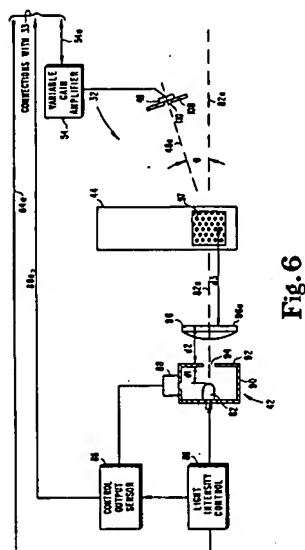
an object lens (96 of figure 6) facing to the chip to magnify the image of the sample of the sample chip (44 of figure 6) that is formed on the sub-area (97 of figure 6) by the light illuminated from the light source (42, 82 of figure 6);

a detector part (48 of figure 6) that particles in the sample (col.8 lines 35-39), which is magnified by the object lens (96 of figure 6), in a sub-area (97 of figure 6) on the sample chip (44 of figure 6);

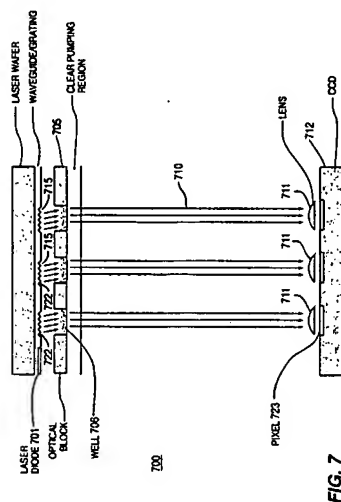
a micro particle counting part (33 of figure 5) that counts micro particles on the sub-area (97 of figure 6) from the detector part (48 of figure 6 and col.9 lines 15 to col.10 line 30); and

a chip shifter (60 of figure 5) that shifts the position of the sample chip (44 of figure 5) in order that a certain area adjacent to the area just before is shifted to the point where the light is incident (col.11 lines 35-48). See figures 1-11

U.S. Patent Mar. 31, 1992 Sheet 4 of 9 5,100,805



U.S. Patent Dec. 29, 1998 Sheet 9 of 12 5,854,684



Ziege et al discloses all of features of claimed invention except for an image photographing part for photographs the image in the sample. However, Stabile et al teaches that it is known in the art to provide an image photographing part is a CCD detector (712 of figure 7 and col2 lines 35-45) for photographs the image in the sample well (706, 705 of figure 7).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine device of Ziege et al with an image photographing part for photographs the image in the sample as taught by Stabile et al

for the purpose of detecting differences across the detection sites in the quantity of light emitted more accurate.

**Regarding claim 18;** Ziege et al discloses the light source (82 of figure 6) is selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, an LED, and a LASER.

**Regarding claims 19, 30, and 39;** Ziege et al discloses further comprising a light intensity control (86 of figure 6) for controlling an incident light control lens (96 of figure 6) controlling the amount of light emitted from the light source (82 of figure 6) and the distance of focus, and illuminating on the sample chip (44 of figure 6).

**Regarding claim 28 and 37;** Ziege et al and Stabile et al discloses all of features of claimed invention **as indicated in claim 1, and** except for sample containing erythrocytes or cells and fluorescent dyeing reagent. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine device of Ziege et al with sample containing erythrocytes or cells and fluorescent dyeing reagent, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

**Claims 17, 29, and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziege et al and Stabile et al as applied to claims 1, 24, and 28 above, and further in view of Shen et al (U.S. Patent No. 5,768,407).**

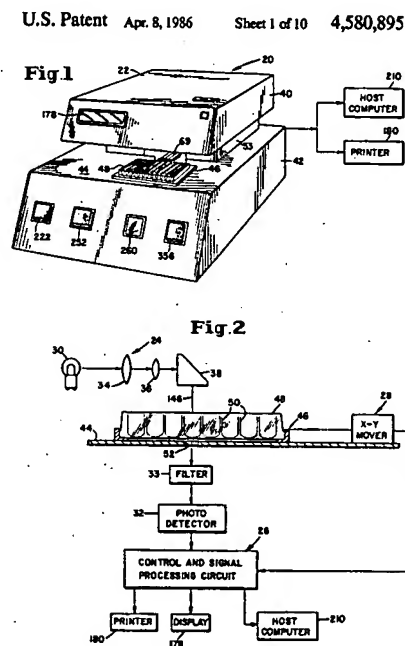
**Regarding claims 17, 29, and 38;** Ziege et al and Stabile et al discloses all of features of claimed invention except for further comprising an optical filter that passes

the light with a specific wavelength among the light passing through the object lens. However, Shen et al teaches that it is known in the art to provide an optical filter (40 of figure 2) that passes the light with a specific wavelength among the light passing through the object lens (e.g., a diffuser lens [38 of figure 2]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine device of Ziege et al with an optical filter that passes the light with a specific wavelength among the light passing through the object lens as taught by Shen et al for the purpose of filtering the light beam more accurate.

**Claims 20, 31, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziege et al and Stabile et al as applied to claims 1, 28, and 37 above, and further in view of Patel (U.S. Patent No. 4,580,895).**

**Regarding claims 20, 31, and 40;** Ziege et al and Stabile et al discloses all of features of claimed invention except for the chip shifter shifts the sample chip by a predetermined distance at every predetermined time interval, and the image photographing part subsequently photographs the image of a certain sub-area adjacent to the sub-area photographed just before as the sample chip is shifted. However, Shen et al teaches that it is known in the art to provide chip shifter (e.g., x-y mover 28 of figure 2) shifts the sample chip 46 of figure 2) by a predetermined distance at every predetermined time interval (figure 2), and the image photographing part (32 of figure 2) subsequently photographs the image of a certain sub-area adjacent to the sub-area photographed just before as the sample chip is shifted (figures 2 and 12). It would have been obvious to one having ordinary skill in the art at the time the invention was made

to combine device of Ziege et al with the chip shifter shifts the sample chip by a predetermined distance at every predetermined time interval, and the image photographing part subsequently photographs the image of a certain sub-area adjacent to the sub-area photographed just before as the sample chip is shifted as taught by Patel for the purpose of identifying accurately the rows and columns of wells in the plate.



Claims 21-23, 32-33, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ziege et al, Stabile et al, and Patel as applied to claim 20 above, and further in view of Shen et al (U.S. Patent No. 5,768,407).

Regarding claims 21, 32, and 41; Ziege et al, Stabile et al, and Patel discloses all of features of claimed invention except for further comprising an optical filter that

passes the light with a specific wavelength among the light passing through the object lens. However, Shen et al teaches that it is known in the art to provide an optical filter (40 of figure 2) that passes the light with a specific wavelength among the light passing through the object lens (e.g., a diffuser lens [38 of figure 2]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine device of Ziege et al with an optical filter that passes the light with a specific wavelength among the light passing through the object lens as taught by Shen et al for the purpose of filtering the light beam more accurate.

**Regarding claim 22;** Ziege et al discloses the light source (82 of figure 6) is selected from the group consisting of a halogen lamp, a xenon lamp, a mercury lamp, an LED, and a LASER.

**Regarding claims 23, 33, and 42;** Ziege et al discloses further comprising a light intensity control (86 of figure 6) for controlling an incident light control lens (96 of figure 6) controlling the amount of light emitted from the light source (82 of figure 6) and the distance of focus, and illuminating on the sample chip (44 of figure 6).

***Allowable Subject Matter***

**Claims 24-27, 34-36, and 43-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The prior art of record, taken alone or in combination, fails discloses or render obvious a device for counting the number of micro particle comprising all the specific elements with the specific combination including of the micro particle counting part

counts micro particles in the sub-area successively photographed by the image photographing part, adds the number of micro particles in each sub-area together, and calculates the total number of micro particles in the samples; and then, calculates the average density of the micro particles from the total volume of the reading part of the sample chip and the total number of the micro particles in set forth limitation of claims 24, 34, and 43.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Robinson et al (7280204); Tibbe et al (7282180); Tajima et al (6787364); Newell (6696269); Wyatt (4541719).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Nguyen whose telephone number is (571) 272-2425. The examiner can normally be reached on 9:30 am to 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifu Chowdhury can be reached on (571) 272-2800 ext. 86. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

December 23, 2007

  
Sang H. Nguyen  
Primary Patent Examiner  
Art Unit 2886